

# Best Management Practices

MISSOURI DEPARTMENT OF CONSERVATION



## Scaleshell mussel

*Leptodea leptodon*

**Common name** • Scaleshell mussel

**Scientific name** • *Leptodea leptodon*

**Federal status** • Candidate

**State status** • Endangered

### Ecology

The scaleshell mussel was historically found in 13 states within the Ohio, Missouri and Mississippi River drainage basins. It occurred from South Dakota eastward to Ohio and Minnesota southward to Arkansas and Tennessee. Missouri is now one of the last states where it can be found. In the Gasconade and Meramec river basins in Missouri this species inhabits clear, unpolluted riffles with moderate current and firm gravel, cobble and sand substrates. It frequently buries itself in riffles to a depth of 4-5 inches.

Almost all mussel species depend on a fish host to complete their life cycle. Mature adult mussels release glochidia (the immature stage), which must attach to the gills or fins of fish to complete their development. After an average of 2-4 weeks, the newly metamorphosed juveniles drop from the fish; and if they land in suitable habitat, they will burrow into the substrate and grow to repeat the cycle. Fish are an important link in the reproductive cycle of mussels and, typically, only certain species of fish are suitable hosts. The scaleshell uses the freshwater drum as its fish host. The scaleshell spawns in early to mid-August and releases glochidia in early summer.

### Reasons for Decline

Historically, scaleshell populations extended throughout river systems in much of the Midwestern United States. Now, however, they are endangered and are known to exist in only a few rivers in Missouri, Arkansas and Oklahoma. Alteration and degradation of habitat as a result of rural and urban development are likely causes of decline. Practices such as dam construction, gravel mining, removal of trees and undergrowth along the stream bank, and non-point source pollution from agriculture and urban areas have probably contributed to the decline. These practices have reduced available habitat, increased stagnation of bottom waters, increased siltation, and possibly eliminated or reduced numbers of its fish host.

### Specific Recommendations

Habitat availability and water quality are limiting factors for the scaleshell. Protecting and restoring rivers and creeks would benefit many aquatic species, including mussels.

→ A survey of the waterways in the project area should be conducted by a trained biologist in order to identify occurring populations of this species.

→ Dams and other impoundment structures that alter water depth and turbidity and promote siltation should be avoided in rivers that contain habitat for the scaleshell.

→ No work should be allowed below the high bank of the stream between May 1 and August 15.

→ All equipment that enters the waterway should be washed and checked for juvenile zebra mussels before entering another body of water. This will help prevent the spread of this exotic European mussel species that can negatively affect native aquatic organisms and kill mussel species like the scaleshell.

### General Recommendations

Refer to Management Recommendations for Construction Projects Affecting Missouri Streams and Rivers.

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